REMARKS

By the above amendment, the features of dependent claim 8 have been incorporated into parent claims 5 and 6, respectively, while clarifying the feature that the displacement of said wafer is detected directly "just prior to" the predetermined treatment within said vacuum processing chamber. Furthermore, new dependent claim 9 has been presented reciting further features of the present invention, as will be discussed below.

The rejection of claims 5 - 8 under 35 USC 102(b) as being anticipated by US Patent No. 6,198,976 to Sundar et al, is traversed, insofar as it is applicable to the present claims and reconsideration and withdrawal of the rejections are respectfully requested.

As to the requirements to support a rejection under 35 USC 102, reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

By the present amendment, independent claims 5 and 6 have been amended to incorporate the features of dependent claim 8 therein which provide that (A) "initial positioning of said wafer is performed in atmospheric air", and (B) "the displacement of said wafer is detected directly just prior to the predetermined treatment within said vacuum processing chamber", it being noted that with regard to feature (B), the previously utilized term of "before" has been amended to "just prior to".

In accordance with the present invention, as described in connection with Fig. 1 of the drawings of this application at page 5 of the specification, "an atmospheric transfer unit designated by reference number 1 comprises an atmospheric robot 7, cassette stages 6a, 6b and 6c, and wafers 60a, 60b and 60c stored in the cassette stages. One of the cassette stages can be utilized as an orientation alignment unit for centering or aligning the crystal orientation of the wafer taken out of the cassette". As described at page 7 of the specification, assuming that 6a is used as an orientation (centering) unit, the atmospheric robot 7 takes out from cassette 6b one of the wafers stored within the cassette 6b, places the wafer on a stage within the centering unit 6a wherein the centering unit corrects the position of the wafer so that it is positioned correctly during subsequent procedures. Thus, as is apparent, in accordance with the present invention, as now recited in independent claims 5 and 6, and previously recited in dependent claim 8, the method of the present invention provides feature (A) that initial positioning of said wafer is performed in atmospheric air".

The specification of this application at pages 7 and 8 further describes the movement of the wafer 60a from the atmospheric transfer unit 1 through the load lock chamber 8 to the buffer chamber 2, which is in a vacuum environment, wherein the wafer is transferred by the vacuum robot 10 through a gate valve thereof into a

respective vacuum processing chamber for effecting predetermined treatment of the wafer. As illustrated in Figs. 1 and 2, for example, position sensors 11 are disposed proximate to an ingress path of the wafer to a respective vacuum processing chamber. That is, such position sensors are disposed at a position proximate to the inlet of the gate valves 5 of the processing chambers, and as described in connection with Figs. 2 - 5 of the drawings, serve for detecting the displacement of the wafer and effecting correction of the displacement of the wafer just prior to the effecting of the predetermined treatment of the wafer within the vacuum processing chamber. Thus, it is apparent that the feature (B) of claim 8, which is also now incorporated into independent claims 5 and 6 of "the displacement of said wafer is detected directly just prior to the predetermined treatment within said vacuum processing chamber" is supported by the disclosure of this application.

Irrespective of the Examiner's contentions, applicants submit that such features (A) and (B), which are separate and independent features, as well as other features of independent claims 5 and 6, as amended, are not disclosed or taught by Sundar et al in the sense of 35 USC 102 or 35 USC 103.

In applying Sundar et al to the claimed invention, the Examiner states:

> With respect to claim 8/5 and 8/6, initial positioning of said wafer is performed in atmosphere (), and the displacement of said wafer is detected directly before the processing within said vacuum processing chamber (column 11, rows 1-18)." (emphasis added).

Applicants note that column 11, lines 1 - 18 of Sundar et al describes a centering of the substrate by the substrate handler 128, which is disposed in a substrate handling chamber 120, referred to throughout the specification of Sundar et al as a "mini-environment 120". Irrespective of the contentions by the Examiner, assuming arguendo, that the substrate handler 128 operates to effect centering within the "mini-environment" there is no disclosure or teaching that the "mini-environment" is

"atmospheric air" as recited previously in dependent claim 8 and now recited in independent claims 5 and 6. Thus, applicants submit that claims 5 and 6, as amended patentably distinguish over Sundar et al in the sense of 35 USC 102 with regard to this feature alone.

Additionally, as to the Examiner's contention that " the displacement of said wafer is detected directly before the processing within said vacuum processing chamber (column 11, rows 1-18)" (emphasis added) such relates to the operation of the substrate handler 128 in the mini-environment 120, prior to insertion in the load lock chamber 118, from which load lock chamber 118, the substrate or wafer is transferred to a transfer chamber 112 and from the transfer chamber 112 to one or more process chambers 114. It is noted that each of independent claims 5 and 6 recite the feature of a vacuum transfer step of transferring said wafer received from said atmospheric transfer equipment to a position for said predetermined treatment within said vacuum processing chamber using vacuum transfer equipment, and a step of detecting displacement of said wafer in a transverse direction with respect to a traveling direction near an ingress path of said wafer to said vacuum processing chamber, as well as a step of moving a vacuum robot of said vacuum transfer equipment so as to correct the detected displacement of said wafer. Applicants submit that the disclosure in column 11, lines 1 - 18 of Sundar et al, if considered to be a disclosure of detecting displacement, is not effected in a vacuum transfer chamber and not "near an ingress path of said wafer to said vacuum processing chamber". Further, it is apparent the vacuum robot 117 of Sundar et al does not correct the displacement of the wafer, as detected. Thus, irrespective of the Examiner's position, applicants submit that such features as well as the feature (B) that "the displacement of said wafer is detected directly just prior to the

predetermined treatment within said vacuum processing chamber" is not disclosed or taught by Sundar et al in the sense of 35 USC 102 and/or 35 USC 103 such that claims 5 and 6 and the dependent claims patentably distinguish over this reference and should be considered allowable thereover.

Applicants note that column 12, lines 48 - 65 of Sundar et al, while disclosing that the center-finding system is operational prior to the substrate reaching the load lock chamber 118, suggesting a column 12, lines 63 - 65, that "In an alternative embodiment, the center-finding procedure may be done in the transfer chamber 112, while the substrate is moved therethrough". Assuming arguendo, that such represents a step of detection of the displacement of the wafer within a vacuum transfer unit, it is readily apparent that such arrangement would then not provide the recited separate feature (A) that "initial positioning of said wafer is performed in atmospheric air" (emphasis added) since such positioning represents the center-finding procedure, and further, there is no disclosure or teaching that the detection displacement is effected "near an ingress path of said wafer to said vacuum processing chamber", noting that irrespective of the position set forth by the Examiner, Sundar et al does not disclose or teach the detecting procedures, as set forth in claims 5 and 6, and the dependent claims of this application. Thus, applicants submit that independent claims 5 and 6 as amended, patentably distinguish over Sundar et al in the sense of 35 USC 102 and 35 USC 103 and such claims should be considered allowable thereover.

As to dependent claims 7 and 9, applicants submit that the recited features of such claims, when considered in conjunction with the parent claims, further patentably distinguish over the cited art and should be considered allowable with the parent claims.

For the foregoing reasons, applicants submit that all claims present in this application patentably distinguish over the cited art and should now be in condition for allowance. Accordingly, issuance of an action of favorable nature is courteously solicited.

Applicants note that submitted herewith is an information disclosure statement and consideration of the documents submitted are respectfully requested.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 648.41957CX1), and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

Melvin Kraus
Registration No. 22,466

MK/jla
(703) 312-6600